

From: [Stevens, Richard](#)
To: [Ned Beecher](#); [Bastian, Robert](#)
Subject: RE: FYI, Gents --- Soil as Carbon Storehouse: New Weapon in Climate Fight? by Judith D. Schwartz: Yale Environment 360
Date: Thursday, March 06, 2014 2:51:00 PM
Attachments: [image001.png](#)
[image002.png](#)
[image003.png](#)
[image004.png](#)
[image005.jpg](#)

Ned, our standard response to such inquiries is that we believe that the Part 503 standards are protective of public health. We continue to evaluate pollutants and conduct research.

In 2009 EPA published the Targeted National Sewage Sludge Survey (TNSSS; <http://water.epa.gov/scitech/wastetech/biosolids/>). TNSSS pollutants are being evaluated by EPA in two phases: 1) Phase I consists of evaluating ten pollutants (i.e., barium, beryllium, manganese, molybdenum, silver, 4-Chloroaniline, fluoranthene, pyrene, nitrate, and nitrite); the risk evaluations for these ten pollutants are undergoing peer review through June 2014. Following peer review, the Agency will address comments, revise the risk evaluation technical background document, and consider any needed risk management options. 2) Phase II pollutants include 135 compounds that the Agency may evaluate in 2014 and 2015.

Also, examples of ongoing or planned research within EPA's Office of Research and Development includes:

1. Evaluating the fate and transport of emerging contaminants (including trace organics, nanoparticles and pathogens) in wastewater, surface water, and biosolids, and development of cost effective test methods and management/treatment options to inform risk assessment and potential future wastewater treatment regulations. ORD is finalizing the development of qPCR techniques for quantification of E. Coli and the development of thresholds for use in quantifying Enterococci and E. Coli using qPCR to help the Agency better monitor and report the status of pathogens
2. Developing and refining the scientific tools available for screening risks for chemical and microbial pollutants found in biosolids
3. For pathogens, determining the capability of existing treatment technologies in wastewater and drinking water treatment facilities to control and treat the types and populations of pathogens associated with the warmer water temperatures expected to result from a changing climate

Rick

From: Ned Beecher [<mailto:ned.beecher@nebiosolids.org>]
Sent: Thursday, March 06, 2014 9:24 AM
To: Bastian, Robert; Stevens, Richard
Subject: FW: FYI, Gents --- Soil as Carbon Storehouse: New Weapon in Climate Fight? by Judith D. Schwartz: Yale Environment 360
Bob and Rick,

I hope all is well with you.

I am wondering if you can suggest any response to the email below, from a concerned advocate at Lake Champlain International in Vermont. He is still quoting the early 2000s EPA Inspector General's report. Is there any more recent statement(s) from EPA regarding the protections to public health and the environment provided by the Part 503 rule? You may find the full string of emails, below, of interest; for chronological order, read from the bottom up.

Thanks,

Ned

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Ned Beecher



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2014 Office Hours: 8:00 – 4:00

Ned: Monday – Thursday

Maggie: Tuesday and Friday

Promoting the environmentally sound and publicly supported recycling of biosolids and other residuals in New England and eastern Canada...



From: James Ehlers <james@mychamplain.net>

Organization: Lake Champlain International

Reply-To: <james@mychamplain.net>

Date: Thursday, March 6, 2014 9:01 AM

To: NEBRA <ned.beecher@nebiosolids.org>

Cc: 'David Mears' <david.mears@state.vt.us>, Tom Moreau <tmoreau@cswd.net>, Bob Fischer <bob.fischer@gmwea.org>

Subject: RE: FYI, Gents --- Soil as Carbon Storehouse: New Weapon in Climate Fight? by Judith D. Schwartz: Yale Environment 360

Hey Ned,

Thanks for sharing your point of view. This, however, is the heart of the matter, and, my experience is that public sentiment is not with you on this one, unless, of course, their rates don't go up and the sludge/solids go elsewhere. This just means they have been bought, not that they are in fact supportive. Furthermore, the EPA Inspector General will not stand behind the safety of the program. Support bringing the assessment up-to-date, and I will be your biggest ally. It is in everyone's best interest ... regardless of the cost, there will be a price, and it usually paid by those without a voice or in the most desperate of economic situations. As you know, private researchers are developing new testing protocols—without the help of the EPA—surely these folks are not just looking for a way to spend their day.

So, in sum, yes, I see the value of rebuilding soils with sludge, and I want to be a major advocate for the practice—once we bring sludge standards into the 21st Century. And, yes, I expect it will cost money or there will be another price downstream—literally in our water or figuratively in our history.

Sincerely,

James

From: Ned Beecher [<mailto:ned.beecher@nebiosolids.org>]
Sent: Wednesday, March 05, 2014 5:22 PM

To: james@mychamplain.net

Cc: 'David Mears'; 'Tom Moreau'; 'Bob Fischer'

Subject: Re: FYI, Gents --- Soil as Carbon Storehouse: New Weapon in Climate Fight? by Judith D. Schwartz: Yale Environment 360

James,

I understand now. Thanks. Yes, Part 503 is 21 years old. But much of the science behind it is still valid (how metals and chemicals behave in biosolids and soils has not changed; we're learning more nuances about them, but the basic laws hold). And the reality is that it is unlikely that EPA will make any changes to 503 any time soon, because 1) they see the regulations as being adequately protective of public health and the environment, which was the Congressional charge given them, 2) they are focusing on higher risk priorities (e.g. climate change, P in surface waters), and 3) they recognize that states (including all in the Northeast) have developed further, more complete and stringent regulations of biosolids that are adapted to local needs and conditions.

Yes, there are traces of substances in biosolids that did not exist in the '80s and '90s. But chemical behavior in biosolids was studied back then. And, fortunately, research on biosolids did not stop when the Part 503 was promulgated, and there is a considerable body of research now on additional contaminants beyond the heavy metals focused on (and dealt with) by Part 503. We continue to track the research on microconstituents (PPCPs, EDCs, PBDEs, PFOA/S, etc.) in biosolids, and I will be speaking on this at the NEWEA Microconstituents conference at Bentley College in MA on April 15th (and will have our long-delayed update on this topic completed by then). As you know, my understanding, based on the literature, is that these traces of synthetic chemicals are very unlikely to present risk to human health through the biosolids exposure chain (far greater is exposure through direct contact and use, house dust, etc.). And there is not yet evidence of significant negative impacts on environmental receptors of these contaminants applied to soils in biosolids at customary agronomic rates. The fact is, soils have considerable assimilative capacity, degrading and binding trace contaminants; agricultural settings especially rely on this continually. And the research on biosolids additions to soils continues to show significant benefits in terms of stimulating microbial communities, plant growth, soil tilth and health, carbon sequestration, water holding capacity, etc.

And the alternative management options for biosolids, which are dictated if we stop soil applications, have environmental impacts too (e.g. GHG emissions from landfills and lower-temperature incineration).

Sustainable communities require that we find cost-effective, safe ways to recycle this most challenging residuals stream, biosolids. We don't have a choice about whether or not to manage these residuals; clean water programs require the creation of wastewater solids. I enjoy working on this difficult challenge, and I appreciate that you are interested in working on it too.

Thanks for the discussion.

Cheers,

Ned

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Ned Beecher



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From: James Ehlers <james@mychamplain.net>

Organization: Lake Champlain International

Reply-To: <james@mychamplain.net>

Date: Wednesday, March 5, 2014 4:25 PM

To: NEBRA <ned.beecher@nebiosolids.org>

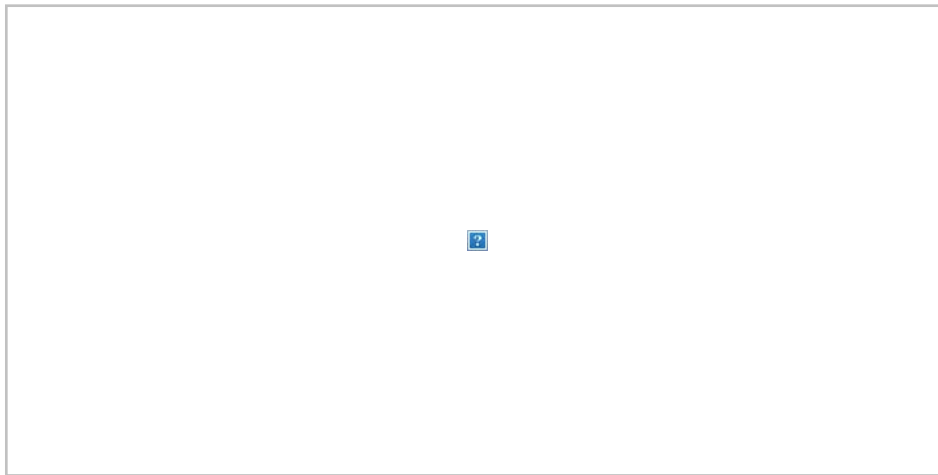
Cc: 'David Mears' <david.mears@state.vt.us>, Tom Moreau <tmoreau@cswd.net>, Bob Fischer <bob.fischer@gmwea.org>

Subject: RE: FYI, Gents --- Soil as Carbon Storehouse: New Weapon in Climate Fight? by Judith D. Schwartz: Yale Environment 360

Ned,

The Part 503 Rule is 1980's science ... didn't they still have cigarette vending machines in government buildings then? Class A and B both now contain substances that did not even exist when the rule was last amended in 1994, I believe.





From: Ned Beecher [<mailto:ned.beecher@nebiosolids.org>]

Sent: Wednesday, March 05, 2014 12:22 PM

To: james@mychamplain.net; Tom Moreau; Bob Fischer

Cc: David Mears

Subject: Re: FYI, Gents --- Soil as Carbon Storehouse: New Weapon in Climate Fight? by Judith D. Schwartz: Yale Environment 360

James,

Excellent article; thanks for sharing it. Carbon sequestration is definitely an excellent argument for recycling biosolids, animal manures, and other organics to soils. Lal's work, cited in the article you sent, is voluminous, and he has long argued effectively that a way to address climate change is to restore soil carbon. When a group of us completed a spreadsheet model for the Canadian Council of Ministers of the Environment that calculates estimated net greenhouse gas emissions from various common biosolids management practices, we included factors (derived from the published literature) for carbon sequestration as a benefit (reduced net CO₂e emissions).

I'm not sure I understand your brief comment about Class A and the last 20 years. I'd be interested in more discussion on that. When it comes to the carbon and nutrient sources in biosolids, Class B tends to retain more than does a Class A product, because it undergoes less treatment (which can often make it stinkier, which is a trade off). Per federal regulations, the difference between Class A and Class B is level of pathogen treatment, and, if managed properly in accordance with regulations (and with best management practices that deal with odor potential, if any, including setbacks, application rates, timing of incorporation, etc.), Class B biosolids use is equally protective of public health as Class A biosolids.

Thanks for the discussion,

Ned

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Ned Beecher



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From: James Ehlers <james@mychamplain.net>

Organization: Lake Champlain International

Reply-To: <james@mychamplain.net>

Date: Wednesday, March 5, 2014 7:14 AM

To: Tom Moreau <tmoreau@cswd.net>, NEBRA <ned.beecher@nebiosolids.org>, Bob Fischer <bob.fischer@gmwea.org>

Cc: David Mears <david.mears@state.vt.us>

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Can we create Class A standard that reflects the reality of the last 20 years? If we do that, we have a very powerful waste management/recycling tool on my fronts ---

http://e360.yale.edu/feature/soil_as_carbon_storehouse_new_weapon_in_climate_fight/2744/ =

All the best,

James Ehlers

Executive Director

[Connect](#) with James



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